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The Panama Rail-Way and the Gulf of Mexico.

1. *Carta del Istmo de Tehuantepec, copied by order of Commodore M. C. Perry, Commanding U. S. Home Squadron, Mexico* 1847, *by Wm. May, Lieutenant U. S. N.*

2. *Plan de la Boca del Rio Coatzacoalcos, copied by order of Commodore M. C. Perry, Commanding Home Squadron, Mexico* 1847, *by Lieut. Wm. May, U. S. N,*

3. *Sketch from the Mouth of the Coatzacoalcos River, to the town of Mina-Titlan made by order of Commodore M. C. Perry, Commanding Home Squadron,* 1847, *by Lieuts. Alden, Blunt and May, U. S. N.*

4. *Mouth of the Coatzacoalcos River, Surveyed, January* 1848, *by order of Commodore M. C. Perry, by*

Wm. Leigh, *Lieut. Commanding,*
E. T. Nichols, *Acting Master,*
A. L. Bradbury, *Master's Mate,*
Officers of the U. S. Brig Stromboli.

Hydrographical Office, Washington.

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The continent must be cut in two. The convenience of the world requires that the two great oceans should be joined together.

The subject is attracting a large share of public attention. Two propositions were submitted to Congress, at the last session, for opening a way for commerce across the Isthmus. The routes proposed were, one via Panama, the other via Tehuantepec.

It will be recollected that Mexico granted, a few years ago, to Don José Garay and others, extraordinary privileges for constructing a railroad or ship canal across the Isthmus of Tehuantepec. Under this grant, Cayetano Moro, an Italian engineer, was employed to survey the route. The map of Tehuantepec and the plan of the Coatzacoalcos, mentioned as 1 and 2, at the head of this article, are the results of that survey.

They were found by Commander McKenzie, U. S. N., at Mina-Titlan, 1847, in the hands of the agent of the Company which had been formed in England upon the faith of Moro's survey; from this agent they were borrowed by Commodore Perry; they were copied by his order, and the copies sent to the Bureau of Ordnance and Hydrography. By authority of the Bureau, these with the two other charts named above, were engraved and published at the National Observatory.

The surveys of Moro have been widely circulated both in this country and in Europe. They have produced a general impression, both here and there, that this Tehuantepec route is very favorable, if not the most favorable that has been proposed across the continent either for railroad or ship canal.

Moro's Survey cannot be relied on. He gives twenty feet water on the bar of the Coatzacoalcos. The surveys, both of Lieut. Leigh, and of Lieuts. Alden, Blunt and May, agree in giving not more than twelve and a half feet there. Commodore Perry states further that he had, in 1847 and '48, three several surveys made of the mouth of that river; that he had himself been in and out of it several times, sounding both ways; and that his own observations, as well as the three surveys, all by different officers, agree; and that they show that more than twelve and a half feet cannot be carried into that river.

Misled by this survey, Messrs. Hargous & Co., in their memorial, last winter to Congress, state that "thirty miles of the river Coatzacoalcos is navigable for ships of the largest class." Our officers followed Moro only fifteen or twenty miles up the river (they went up as far as Mina-Titlan;) they give twelve feet only that far; he gives thirty-three—a difference of twenty-one feet. What difference they would have made for the thirty miles, we cannot say. These are vital points; points upon which the merit of the route depends, and which form serious objections to it.

Moreover, there is reason to believe that Moro took his soundings in the rainy season, when the river was swollen with a flood from the mountains. Yet, no mention is made of this fact. Now, what would be thought of an Engineer with us, who should be employed to examine the navigability of one of our rivers for the purpose of giving the public correct information as to its depth of water, with the view of connecting some internal improvement with it, and with the view of getting subscriptions to the

stock upon the faith of that report; what, we repeat, would be thought of the Engineer sent for instance to ascertain the navigability for ships, of the Illinois river, with the view of connecting the Mississippi through it by ship canal with the Lakes, and who should take his soundings when there was a fresh in the river, and report the depths thus obtained as the true depth?

Before the Tehuantepec route can be considered, it is incumbent upon those who advocate it as the best, to show how, and at what cost, the bar at the mouth of the Coatzacoalcos can be deepened, and also to show how a harbour can be constructed on the Pacific side of that Isthmus; and how it can be kept open after it is constructed.

The coast there resembles very much our own Southern coast; like it, it is skirted with a chain of low and narrow islands, separated by inlets or bars. Let those who think it an easy matter to make a harbor there, recollect the difficulty of forming harbors on our own shores, where they have been either closed or obstructed by the formation of bars.

This chart has been suppressed at the Hydrographical office on account of its gross errors and absurdities, and therefore it is needless to say more about it.

It is true, as stated by Hargous & Co., in their memorial to Congress that the distance of the sea voyage, from New Orleans via. Tehuantepec to San Francisco is about 2000 miles less than it is by Panama. But the expense of transportation by land exceeds, per mile, that by sea some 30 or 40 times. The freight, per ton, per sea mile, on long voyages, is seldom more than at the rate of two mills per ton, and is often less. Over the rail roads of the United States it is about 5 cents, per ton per mile. These facts show that it costs no more to send a ton of merchandise 25 miles by sea than it does to send the same one mile by rail road in the United States. At least double the rates in the United States, where there are opposition lines, shops, mechanics and facilities for supplies of all sorts, should be allowed for the Tehuantepec rail-road, which is far away from shops, mechanics, supplies, &c., and which would have no opposition.

According to this, and taking the length of the Tehuantepec route at 115 miles, as stated in the memorial, it would be as cheap, as to money, to send a cargo 5,750 miles by sea as it would be to send it over the 115 miles of Tehuantepec rail-road.

But a rail-road across the Isthmus of Tehuantepec must be longer than 115 miles. In a straight line across the Isthmus, the distance from the Gulf of Mexico to the Pacific is 140 miles; and we have shown that the memorial, ists have not by 7 or 8 feet as much water on the bar, and not as much by 21 feet in the river-as their Engineer reported, and consequently, that they cannot have their "30 miles of river navigation for ships of the largest class." A rail-road, if a rail-road be ever built there, must go from sea to sea; and, allowing for detour, its length would probably not fall short of 150 miles, which, at 10 cents per ton, per mile, would give 15 dollars as the cost of transporting a ton of merchandise from one end of this road to the other. Fifteen dollars per ton is what shippers usually pay to send their goods from New York around Cape Horn, to Chili and Peru. This route then could not at present compete with Cape Horn for the carrying trade between the two Oceans: for the expense of the sea voyage to and from Tehuantepec must still be added to the 15 dollars of rail-way transportation.

The distance across the Isthmus of Panama is but one third as great as the distance across Tehuantepec; consequently, giving each route the same rate of tolls, the freight over the Panama, compared with that over the Tehuantepec, road, would be as 5 dollars to 15 dollars, per ton. For 15 dollars the ton, goods are taken from New York around Cape Horn and landed in the ports of Chili and Peru, 13,000 miles off; and yet Tehuantepec, it is alleged, offers the more eligible route than Darien, because it cuts off 2,000 miles of the sea voyage to California. As far as California is concerned, this would be a great advantage, if there were no offsets to it. But, while it lessens the distance 2,000 miles more than the route via Panama does, it increases the expense nearly at the rate of 10 dollars more the ton on merchandize. Will our shipping merchants say it is worth 10 dollars a ton on freight to lessen a sea voyage 2,000 miles?

The mere statement of the distance to be saved does not enable one to judge correctly as to the relative merits of the two routes. Time and expense are the true arguments to consider. Time to California, and only time to California, alone is in favor of Tehuantepec; but expense in every direction, and time to all places, except California and the North, are in favor of Panama; and the gain in time to California is not sufficient to compensate shippers for the increase of expense which the Tehuantepec road would require.

The time may come when a communication across Tehuantepec would be used for transporting certain articles of commerce; but before we can form any idea as to when that time will be, we require to have of the route an examination that is worthy of confidence. We are of opinion that the want of a harbour on the Pacific—

even if there were a rail-road already across—would render the communication unavailable for commerce. The "harbour" to which the proposed route is to run, is no harbour at all. It is blocked up by a bar of not more than 6 or 8 feet water—that bar and coast are Carolina like, and therefore it will be a difficult matter to deepen the bar and to keep it open. Our people, states and government have never been able to do as much with one of our own Southern bars.

When the rail-road that is to run from the Mississippi valley to California is built, and built it certainly will be, the most direct route, the shortest, in time and money, for travellers from Peru and other South American States to California, China, &c., will be via Panama, New Orleans, and the California rail-road. A rail-road across the Isthmus of Panama would be but a continuance of the Mississippi and California line to South America. At present the stream of travel sets from the United States across Panama; but, when the road to California is completed, the stream will be turned the other way, and the tide of travel from South America to the above named places will probably flow through the United States.*

Therefore we say the Panama rail-road must be built. The present generation wants it, and posterity will have it. We propose to view this measure in some of those manifold lights in which the wants of commerce and the great interest of the county hold it up before the world.

Rightly to consider it and the effects which are to arise from uniting the two oceans, it is necessary to take in review the position in respect both to the Old World and the New, of our Mediterranean, which consists of the Gulf of Mexico, with its Archipelago, the Carribean sea.

The geographical position of this sea and its shores, the size of the rivers which flow into it, the climates and the soils of their valleys, and the hand with which nature has strewed the elements of commerce among them, all conspire to make it the most useful to the greatest numbers of men and therefore the most interesting sea in the world. It is situated midway between the two Americas. Rivers whose head waters reach back north and south into the very heart of the country, run into it.

* For a full discussion as to a rail-road from the Valley of the Mississippi to California, see a letter addressed by Lt. M. F. Maury, U. S. N. to Hon. T. Butler King of Georgia. Ho. Doc. No. 596, 30th Congress, 1st Session. Also a letter from the same to Hon. Solon Borland, published in the Southern Literary Messenger for May, 1849. These two papers show in detail the difficulties in the way of Tehuantepec, and the importance of a rail-road to California. They are recommended to the attention of all our readers who take an interest,—and which of them do not take a lively interest—in the subject?

A line from the Delta of the Orinoco to the east end of Cuba, is but a thousand miles long; and yet to the west of it, lies this magnificent basin of water locked in by a continent that has on its shores the most fertile valleys of the earth; in the midst of these valleys ships may sail thousands of miles on the largest rivers that bring tribute to the Ocean. They contain the elements of dormant wealth, of national power and greatness, which it requires facility of communication with the Pacific to begin to develope, and which, when fully developed, will astonish the world. An era and an epoch in the affairs of nations will date from the opening of this communication. All and more too, that the Mediterranean is to Europe, Africa and Asia, this sea is to America and the world.

A sea is important for commerce in proportion to the length of the rivers that empty into it, and to the extent and fertility of the river-basins that are drained by it. The quantity and value of the staples that are brought down to market depend upon these. The Red Sea is in a riverless district; few are the people and small the towns along its coast. Its shores are without valleys; not a river empties into it; for there is no basin for it to drain. Commercially speaking, what are its staples in comparison with those of the Mediterranean which gives outlet to rivers that drain and fertilize basins containing not less than one million and a quarter of square sea miles of fruitful lands?

Commercial cities have never existed on the shores of the Red Sea. Commerce loves the sea, but it depends for life and health on the land. It derives its sustenance from the rivers and the basins which they drain—and increases the opulence of nations in proportion to the facilities of intercourse which these nations have with the outlets of such basins.

The river basins drained into the Gulf and Carribean Sea, greatly exceed in extent of area and capacity of production the river basins of the Mediterranean. The countries in Africa, Asia and Europe which comprise the river basins of the Mediterranean are in superficial extent but little more than one fourth the size of those which are drained by this sea in our midst. It is the Mediterranean of the New World, and nature has laid it out on a scale for commerce far more grand than its type in the Old: that is about 45° of longitude in length, by an average of 7° of latitude in breadth. Ours is broader but not so long; it is therefore more compact; ships can sail to and fro across it in much less time, and gather its articles of commerce at much less cost.

The two seas cover each about the same su-

perficial extent, but from one extreme to the other of that of the Old World, the route is tortuous and the voyage long; it cannot be accomplished without sailing a distance quite equal to that between Europe and America. Whereas, from the most remote point in the Carribean Sea to the farthest port in the Gulf, a straight line may be drawn on the water, and the distance from one extremity to the other of it will be but little more than 2000 miles.

From the ports of the Levant and Black Sea to the ocean, a vessel under canvass requires a month or more, but from any point on the coast of this central sea of America, a vessel may be out upon the broad ocean in a few days. Winds and currents, with all the adjuvants of navigation, are here much more propitious to the mariner than they are in any other part of the world.

There is a system of perpetual currents running from the ocean into this sea, and from this sea back into the ocean. They are literally rivers in the sea, for they are as constant, and almost as well marked, as rivers on the land.

Had it been left to man to plan the form of a basin for commerce on a large scale,—a basin for the waters of our rivers and the products of our lands, he could not have drawn the figure of one better adapted for it than that of the Gulf, nor placed it in a position half so admirable.

The shores of the Mediterranean are indented by deep bays and projecting points of land which greatly lengthen the sailing distance from port to port. The sinuosities of shore lines add to the expenses of commercial intercourse. By land the distance from Genoa to Venice is that only of a few hours travel, but by water they are more than a thousand miles apart. There are no such interruptions to navigation in the Gulf of Mexico. The shortest distance from port to port there, as from New Orleans to the ports of Texas and Mexico, to Pensacola, Havana and the like, is by water.

The windings of the Mediterranean shore line, exclusive of its islands, measure 12,000 miles in length; whereas those of the Gulf and Carribean Sea do not mete out half that distance.

Ships therefore which go into the Mediterranean, have, to gather the produce which is brought down from its river basins containing less than two millions of square miles, to wind along a coast line 12,000 miles in length; whereas those which go into the Gulf of Mexico may by sailing 5000 miles reach the mouths of rivers that drain of water and surplus produce, more than four millions of square miles of fruitful plains and fertile valleys.

Easy access by sea to the mouths of rivers which drain extensive basins of rich land has always been regarded as the best basis upon which the foundations of commerce can be laid. The character and extent of the back country which supplies such outlets, are the true exponents of the commercial prosperity of the cities, and of the condition of the people who dwell there. The closer these outlets are together, and the greater the diversity of the climates drained by them, the more numerous are their products, and the more active is their commerce. Hence the commercial importance of every bay, gulf and sea of the ocean may be considered as in direct relation to the extent, variety and fertility of their river basins.

Because the Red Sea is in a riverless region it has no markets. Consequently it has, in the eye of commerce, ever been regarded as valueless in comparison to the Bay of Bengal, and the Mediterranean Sea, with their broad basins and beautiful tributaries.

Every one who takes the trouble to examine, is struck with the fact that the greatest commercial cities of the world, are and ever have been those whose merchants have been most advantageously situated with regard to the outlets, natural or artificial of great river basins and producing regions.

Rightly to perceive how admirably located and arranged for the purposes of commerce, are the Gulf and Carribean Sea, and duly to appreciate the advantages arising therefrom, let us, before comparing the river basins of America with those of Europe and Asia, or before tracing further the effects which the course of the rivers of a country, has upon its commerce, take a glance at the geographical position of this our central sea.

Curtained on the east by a chain of fruitful islands stretching from Trinidad to Cuba, it is on the north and the south and the west, landlocked by the continent which has bent and twisted around this sea, so as to fold it within its bosom and hold it midway between the two semi-continents of the New World.

In this favored position it receives on one side the mountain streamlets of a sea of islands; on another, all the great rivers of North America; and on the others the inter-tropical drainage of the entire continent.

The Atlantic Ocean circulates through this our Mediterranean. Its office in the economy of the world, is most important. It not only affords an outlet for the great American rivers, but it makes their basins habitable by giving them drainage and sending off far away into the ocean the drift and the over-heated waters which the rivers bring down. It also, through its system of cold and warm currents, makes its own shores habitable to man, tempers the climate of

Europe, and by its genial warmth makes productive the soil there.

The Amazon rising in the Andes and emptying into the ocean under the line, also finds its way through the magnificent llanos and pampas of the tropics down to the margin of this sea.

In consequence of the Gulf Stream the mouth of the Mississippi is really in the Florida pass. The waters of the Amazon flow through the same channel. The great Equatorial current of the Atlantic sweeps across the mouth of this river and carries its waters into the Carribean Sea; from the Carribean Sea they flow into the Gulf of Mexico, and thence by the Gulf Stream back into the Atlantic. Such is the channel through which the waters of the Atlantic complete their circuit and are borne back into the ocean again. The distance in a straight line from the mouth of the Amazon to the Florida pass is only twenty-four hundred miles. Therefore the Amazon may very properly be regarded as one of the tributaries, and its basin as a part of the back country, to this our noble sea.

The connexion is even more close; for one mouth of the Amazon is that of the Orinoco, which empties directly into the Carribean Sea. These two streams present the anomaly of two great rivers having sources that are common. A person sailing up the Amazon, may cross over into the Orinoco, and re-enter the sea through that river without having set his foot on shore or disembarked once. The Rio Negro takes its rise from the eastern slope of the Andes, and after having run several hundred miles, it divides itself into two streams, one of which flows into the Amazon, the other into the Orinoco. This is nature's canal between them.

The Mississippi and the Amazon are the two great commercial arteries of the continent. They are fed by tributaries with navigable length of channel more than enough to encircle the globe.

This sea therefore is like a heart to the ocean. Its two divisions of Sea and Gulf perform the office of ventricles in the system of ocean circulation. Floating bodies from the region of Cape Horn, from the coast of Africa and the shores of Europe are conveyed into the Carribean Sea and thence into the Gulf of Mexico, whence its waters supplied anew with heat and motion, are again sent forth through their channels of circulation over the broad bosom of the Atlantic. To Western Europe the heated currents of this sea distribute their warmth, and then return back to their sources through the invisible channels of the deep.

We have seen that the river basins of the Mediterranean cover but little more than one-fourth the area which is drained by the streams which empty in the Central Sea of America.

That we may realize the extent of these river basins of America, let us add to those of the Mediterranean the chief river basins of Western Europe and Southern Asia, and see then if they can out-measure the valleys drained by our Mediterranean alone.

Before doing this, however, we will take a glance at the geographical features and physical condition, which regulate the size of the river basins to be considered.

It is a remarkable feature in the formation of this continent that there are no great basins in the interior without sea-drainage, and no rainless districts of any considerable extent. With one or two exceptions as the inland basin of the City of Mexico, and the Salt Lake, which comprise but small districts of country, all the water courses of America empty into the sea. The extent of country for sea drainage here is far greater than in any other part of the world. Hence we have larger valleys, valleys that are longer and broader than any in the Old World. Consequently, they collect more water, call for more drainage, and hence give rise to more and larger rivers. In the Old World there is a region of country 80° of longitude by 17° of latitude in extent, in which it never rains. Here, between the Andes and the Atlantic there is no such rainless region. The annual fall of rain between the tropics in the Old World is 6 feet; in the New World it is 11; and it is greater here than there in the temperate zones also. More than one half of all the fresh water in the world is on the continent of North America. In facts like these is found the explanation as to the cause of the surprising length and volume of many of the American rivers. Big rivers are required to drain broad valleys.

In Europe and Asia the great continental declivities are such as to leave no room for any remarkable length of river and breadth of valley.

In North America there is an immense valley between the Alleghany and the Rocky Mountains. The great Lakes form the northern edge of this valley, the entire drainage of which is therefore carried off towards the south into the Gulf of Mexico.

This is the basin of the Mississippi.

In South America the Andes skirt the western coast very closely and send off to the East a chain of mountains from Bolivia to the Atlantic coast of Brazil. These mountains divide South America into two great systems of river basins; the drainage of one is to the north and east, of the other to the south.

In the broadest part of the continent therefore, which is its northern portion, the continental slope gives rise to the first mentioned system. The district of country included in it is an im-

mense one, the rains are heavy, and the drainage great. Hence the direction and volume of the Para, the Amazon and Orinoco. The basin which slopes to the south, is much less in extent; it is drained by the La Plata. In one part of Europe the drainage is in all directions towards the Black sea, which is sunk down in a sort of basin of its own, and receives the drainage from several quarters. But the longest slope on the sides of this basin runs up west towards the centre of the continent. Here the Danube and other draining streams which empty into the Black sea and thence into the Mediterranean, take their rise.

On the shores of this last, we have the drainage to the south which gives rise to the Rhone, &c. Europe has its Atlantic slope also, and there the rivers, as the Tagus, the Rhine and the Elbe, run west. Thus we see that the Geographical features of Europe leave no room for a Hydrological expression like that of the Amazon and the Mississippi, with their valleys.

In the interior of Asia there is a grand continental basin 85 degrees of longitude in length. It is spread out over the middle of the continent and extends from the borders of Europe to the eastern districts of China. It embraces a region of country more than four millions of square geographical miles in extent, which has no ocean drainage. In the midst of the old world, it is surrounded by steppes and mountain ranges which shut it out from the world of waters beyond. It gives rise to many large rivers as the Volga and the Oural; but they empty into the Caspian and other continental seas, which have no visible outlet or communication with the ocean. For all the great purposes of commerce, this immense and fertile basin is as blank as the desert of Zahara. Of course, then, the rivers above this basin must run north into the frozen ocean, which also is a blank as white as snow, in the book where commerce records her statistics. They embrace nearly four millions of geographical square miles.

On the south side of this inland basin, the inclination of the continental level, is towards the China seas and Indian ocean. Here then we must look for those river basins and the origin of those streams which give rise to the commerce of the east, and here accordingly we find the teeming valleys drained by the Euphrates, the Ganges and the Yangtse Kiang—all of which descend from fruitful plains, and all except the last, are open to trade and traffic with "Outside Barbarians."

The distance from the Bay of Bengal and Arabian sea, to the southern edge of this great inland basin, varies from 3 to 10 degrees of latitude, consequently the climates, through which the rivers of India flow, are limited to 10 degrees of latitude; the produce that comes down those streams for market, has no greater range of climate than that which is due a north and south line of five or six hundred miles in length. Neither can the rivers themselves be very long, nor their basins very broad, nor their volume of waters very great. Their valleys may vie in fertility with those of the Mississippi and the Amazon, but as for diversity of climate, variety of productions and navigable capacity of water courses, there is no comparison.

Let us now return to the comparison as to extent of the river basins of the old world with those under consideration in the new.

According to one of the most remarkable works of the age—Professor Johnson's Physical Atlas—the river basins in the old world, contain in geographical square miles, stated in round numbers as follows, viz.

Of Mediterranean Europe,	1.160.000	sq. m.
Nile, - - -	520.000	" "
Euphrates, - -	196.000	" "
Indus, - - -	312.000	" "
Ganges, - -	432.000	" "
Irawady, - - -	331.000	" "
Others of India, -	173.000	" "
Those of Western Europe, as Rhine, &c. - -	730.000	" "
Total Med. India and Western Europe,	3.854.000	" "

Area in geographical square miles of river basins drained into the Gulf of Mexico and Carribean sea.

Basin of Mississippi River,	982.000	sq. m.
Basins in Florida and Texas (estimated) - -	520.000	" "
Do. Mexico and Central America, do. - -	300.000	" "
Do. Amazon, - -	1.796.000	" "*
Do. Orinoco and all others of Carrib. sea, - -	700.000	" "
Total Gulf and Carrib. sea,	4.298.000	" "

* Including the basin of Para.

do. Medit., India and West. Europe, - -	3.854.000	" "

Difference—call it nothing, though it measures an area containing nearly half a million of square miles.

From this statement we are led to the very remarkable conclusion—and it is an important physico-commercial fact—that the area of all the valleys which are drained by the rivers of Europe which empty into the Atlantic, of all the valleys that are drained by the rivers of Asia, which empty into the Indian ocean, and of all the valleys

that are drained by the rivers of Africa and Europe which empty into the Mediterranean, does not cover an extent of territory as great as that included in the valleys drained by the American rivers alone, which discharge themselves into our central sea. Never was there such a concentration upon any sea, of commercial resources. Never was there a sea known with such a back country tributary to it.

The produce which comes down the rivers of Europe, has, when, it arrives on the shores of the Atlantic, to be transported 15 or 20,000 miles to be exchanged for that which comes from the river basins of India. From the mouth of the European rivers discharging into the Atlantic ocean, the voyage to the mouth of the Asiatic rivers which run into the Indian ocean, often occupies 200 days; consequently it requires a ship more than a year to take on board a cargo from the river basins of Europe, go with it to India, exchange it, and return with the proceeds thereof to the place whence she started; so great the distance and so long the period of time which separate these two fountains of commerce.

One ship, therefore, trading between the American system of river basins, may fetch and carry, exchange and bring back in the course of one year, as many cargoes as ten ships can in the same time, convey between the remote basins of the system in the old world.

The products of the basin of the Mississippi, when they arrive at the Balize may, in 20 or 30 days, be landed on the banks of the Orinoco and Amazon. Thus in our favored position here in the new world, we have, at the distance of only a few days sail an extent of fruitful basins for commercial intercourse which they of the old world have to compass sea and land and to sail the world around to reach.

On this continent nature has been prodigal of her bounties. Here, upon this central sea, she has with a lavish hand grouped and arranged in juxtaposition, all those physical circumstances which make nations truly great. Here she has laid the foundations for a commerce, the most magnificent the world ever saw. Here she has brought within the distance of a few days, the mouths of her two greatest rivers. Here she has placed in close proximity the natural outlets of her grandest river basins. With unheard of powers of production, these valleys range through all the producing latitudes of the earth. They embrace every agricultural climate under the sun, they are capable of all variety of productions, which the whole world besides can afford. On their green bosom, rests the throne of the vegetable kingdom. Here commerce too in times to come, will hold its court.

The Mississippi comes down from the grain producing regions of the north, bearing vessels deeply laden with produce; freighted with all varieties of the fruits of the temperate zones, they convey to the sea large cargoes of merchandize, gathered from the products of the field, the forest and the mine. Hills of iron, mountains and valleys filled with coal are found on its banks. Its waters are mingled in the Gulf with those of the Amazon and Orinoco, which run between the tropics. From their basins they are ready at the bidding of civilized man to place on this sea in all variety and abundance the products of the Torrid Zone. Arrived in the Gulf with these goods, the mariner then finds a river in the sea to speed him on with its favoring currents to prosperous voyages. Through the Gulf stream the productions of this grand system of river basins will be distributed over the world, passing by and enriching as they go, Norfolk, Philadelphia, New York and Boston, all the Atlantic slope and all the Pacific slope too of the United States.

From 50° north to 20° south, the Mississippi and the Amazon take their rise. A straight line from the head waters of one to those of the other, measures a quadrant of the Globe. They afford outlets to all the producing climates of the earth. Upon this Gulf and sea, perpetual summer reigns; and upon their shores, climate is piled upon climate, production upon production, in such luxuriance and profusion that man, without changing his latitude, may, in one day, ascend from summer's heat to winter's cold, gathering as he goes the fruits of every clime, the staples of every country.

To gather such things in the old world, commerce must first plume her wings and sail in search of them through all latitudes and climates, from the extreme north to the farthest south.

In the small compass of the West India sea, are crowded together the natural outlets of the ocean, from mountains, plains and valleys, that embrace every variety of production, every degree of latitude and climate, from perpetual winter to eternal spring. The largest water courses of Europe and India, do not run through more than 10° or 15° of latitude. The greatest variety of climate possessed by the river basins of India, the Mediterranean and Atlantic Europe, is included between 10° and 55° of north latitude. Only forty-five degrees of latitude there against 70° here. There they are all in the same hemisphere, and when it is seed time in one basin, it is seed time in all; and short harvests there produce famine. Here, in the American system, we include both hemispheres—and therefore when it is seed time in one basin, it is harvest in the other.

With this blessed alternation of seasons, so near at hand and so convenient to our great seaport towns, and avenues of trade, famine on these

shores is impossible. With this American sea between the two hemispheres and in the lap of both, nature has endowed it with commercial resources, and privileges of infinite variety. Here come together and unite in one, the natural highways to the ocean, from mountains, plains and valleys teeming with treasures from the mineral, the vegetable and the animal kingdoms—nature's most princely gifts to man.

Were it given to us of this day to look down through future generations, and to see the time when the valleys of the Mississippi, the Orinoco and the Amazon shall be reclaimed, peopled and cultivated up to their capacities of production, we should behold in this system of river basins and upon this central sea of ours, a picture such as no limner can draw, no fancy can sketch. All the elements of human greatness which river, land and sea can afford, are here crowded together. For their full development, easy access to the Pacific is necessary.

The course of a river exercises important bearings upon commerce. A river that runs east or west, has no diversity of climate, its basin is between two parallels of latitude, and there is no variety of production from source to mouth, except such as is due to elevation. The husbandman who inhabits the banks of such a stream, when he descends it with his surplus produce for exchange and barter, finds on his arrival at its mouth, that he has but come to New Castle with coals only. He is there offered duplicates in exchange for what he has brought to sell; all sellers and no buyers never can make commerce brisk. Such a river may have a staple, it may be corn, it may be oil, but whatever it be, it is all they who dwell in its valley have to sell, and whatever they buy they buy with that staple. The commerce of such a basin therefore must be with other latitudes, with other climates and with regions which afford *variety*.

On the contrary, one who descends a river that runs north and south finds his climate changing day by day; at every turn new plants and strange animals meet his eye. He brings with him from its head-waters the furs, the cereal grains, and a variety of articles—productions of the north, to exchange for the coffee and sugar and the sweets of the south, which are gathered on its banks below.

It is the business of commerce to minister to the fancies as well as the necessities of man; she therefore delights in variety of climate and assortments of merchandize. It is owing to the diversity of climate and production afforded by the States of this Union and to the facilities of intercourse with them, that the trade of a single State, as Massachusetts, with the rest exceeds in value the entire foreign commerce of the whole country with all the world besides. The pursuits of commerce abound in secrets of high import to the happiness of man; an easy communication from the Gulf to the Pacific is the key to some of them.

The products of seventy degrees of latitude are to be found in the river basins drained by this central sea. All nations want of them; but the 600 millions of people who live on the shores that are washed by the Pacific Ocean, are excluded from them. They are barred out from this great *Cornu Copia* of the World, by a strip of land but a span in breadth. From the mouth of the Amazon and the delta of the Mississippi to the Isthmus of Panama, the distance in each case is less than two thousand miles. Shall this barrier forever remain in our way to the markets and the wants of six hundred millions of people? Let those who study the sources and understand the elements of true national greatness ponder this question, while we consider the effects which the course of a river has upon the character of the people who inhabit its basin.

The most superficial observer remarks the effect which the course of a river has upon the flora and fauna that inhabit its banks; as the traveller ascends an east or west stream, he finds all the way up the same fish, the same beasts, birds and reptiles. There is as little variety among those as there is among the plants and herbage upon which they feed. But along rivers whose beds lie north and south, he sees as he descends from source to mouth, entire changes in the families, species and genera both of plants and of animals.

Can it be so, that climate which with its multitudinous influences so strongly impresses itself upon the vegetation of a country, upon its beasts, birds and fishes—upon the whole face of organic nature, should produce no effect either upon the outer or the inner man! His habits depend in an eminent degree upon climate and soil, and these upon latitude; they operate upon his organization and affect his appearance; else whence the difference between the Caucassian and the Ethiopian; the Esquimaux of the north and the Aztec of the south?

The frigid zone is a niggard, yielding scanty returns to labor; there man is a beggar, and from the cradle to the grave, he has a hard struggle to snatch from the land and water the bare means of animal subsistence. He has no time for moral developments; his severe climate, with its consequently barren soil and stunted vegetation, taxes all his energies to make provision for the night of his long and dreary winter. It should not be forgotten that man in the climates of severe cold requires more food for sustenance than he does in the temperate regions; while on the other

hand nature is much less generous in her sources of supply. These are based on the vegetation, which goes on decreasing in perfection and development from the Equator—where its energies are most active—to the poles, where they are most torpid. The torrid zone is most favorable for the development of vegetable as well as for purely animal life. But for man in the true nobleness of his being, the temperate zone is the place. Here he is neither pinched with hunger nor starved with cold as in the frigid, nor surfeited to plethora as in the torrid zone. Extremes are closely allied, the abundance of one and the scarcity of the other of the zones each tends rather to the development of the animal passions than of the moral attributes. The temperate zone is the happy middle for these. Here nature is not the severe taskmaster of the polar regions, nor the prodigal host of the tropics. She lures man to labor, and in the wholesome necessities of labor, he finds exercise and incentive to the intellectual being. Here he is surrounded with all the physical conditions most favorable to progress and improvement. Within the tropics he is enervated by the climate. Nature does not impose the necessity of severe toil there, but invites to luxury and repose; and in so doing stimulates and excites the animal propensities at the expense of moral advancement.

The facts are curious and ought to be mentioned: Not only the temperate zones, but certain places in them seem to be best adapted as the nurseries of civilization and Christianity, and therefore for the development of those faculties, attributes and qualities which distinguish and ennoble the human race most of all.

These favored spots are secluded places; they have been for the most part surrounded by mountains, and separated from the world beyond by barriers difficult to pass. They are inland basins, the most striking peculiarities of which are that they have no ocean drainage; their streams all empty into closed seas or lakes which have no visible connexion with the great salt seas that cover two-thirds of the earth's surface.

When man was created in God's own image, he was placed in the garden spot of the earth, near one of these basins, and on the banks of a river that crosses parallels of latitude and runs through varieties of climate. Here he waxed strong and became wicked, and caused God to repent of the work of creation. Then the condition of things was changed: the earth was cursed for man's sake; and after the flood, the ark was landed within an inland basin which has since had no connection by water with the ocean.

The promised land of the Israelites is another inland basin. It is so good, that as a special mark of Divine favor, Moses was permitted to look down upon it and die. It is drained by the Jordan and other streams which are shut out from the ocean. Here Christianity had its birth.

For the want of natural barriers to make their country an inland basin and to exclude them from liability to incursions from the savage hordes without, the Chinese built a wall, and under the shelter of that they attained the highest degree of civilization known among the ancients. Intercourse with the world during the primitive ages seems to have been unfavorable to the well-being and advancement of civilization.

It is remarkable that in the New World, there should be but two inland basins, and they the spots where the Aborigines had attained their highest degree of civilization. When compared with the whole continent, the area which these basins occupy is found to be quite inconsiderable as to size. Grants of land of larger extent on the continent have been made to single individuals. The Incas of Peru and the Aztecs of Mexico each dwelt in inland basins. The basin of the sealed lake Titicaca is the only inland basin of South America; and with the exception of the great salt basin, the basin of Mexico is the only one in North America from which there is no outlet to the ocean. Each of those basins is partly within the tropics, but their elevation above the level of the sea is such as to give them the climate, the flora, and the fauna with all the advantages and conditions of the temperate zones. More striking examples as to the effect of geographical conditions upon the character of man could scarcely be mentioned.

But civilization has now attained a growth which no longer requires the shelter of the mountains and their fastnesses to protect it from the rude shocks of savage man and his blighting passions. It now delights in free intercourse among nations, and flourishes best where commerce is most active and institutions are most liberal. The history of civilization in its early stages is that of a tender plant, which, while young, requires the protection and shelter of the hot-bed; but which, after it has attained a certain degree of vigor, thrives best in the open air. Since the transplanting of civilization from its secluded valleys it has attained a vigorous growth; under its shadow liberty finds shelter, man safety, and nations freedom of intercourse. Its seeds and its fruits have been borne to distant lands on the wings of commerce. Its branches reach all parts of the habitable globe.

There is this further analogy; as the plant which has been nurtured in the green-house acquires the power to withstand the vicissitudes of the open field, the conditions of the nursery become less and less adapted to its habits and the promotion of its vegetable health. It cannot,

therefore, after having acquired in the grove the magnitude and habits of the forest tree, flourish in the green-house again. It will pine away there and die, or at least it will cease to thrive. So with the moral and the intellectual culture of man. These inland basins seem to have been not only most favorable to its early development, but after civilization acquired the strength to advance beyond its green-house in the mountains, it seems to have acquired organs and powers, for the unfolding and growth of which the conditions of secluded valleys were altogether unfavorable.

The people who now inhabit the river basin of the Jordan have fallen back into a semi-barbarous state. Neither can the basin of Mexico nor the shores of the Peruvian lake any longer be considered as the seat of the highest degree of civilization in the New World.

Considering the small area of these inland basins in comparison with the extent of the whole earth, it cannot be that chance should have made them the nurseries of civilization. Effects here as elsewhere must have their causes; mere coincidences would be miraculous. It would be interesting and profitable too to trace out those physical conditions, cosmical arrangements and terrestrial adaptations peculiar to those places and which must have been especially favorable for the development of those traits and attributes of man, which, when fully matured, are destined perhaps to make him only a little lower than the angels of heaven.

"As the external face of continents," says Humboldt, "in the varied and deeply indented outline of their coasts, exercises a beneficial influence on climate, trade and the progress of civilization, so also in the interior, its variations of form in the vertical direction, by mountains, hills and valleys, and elevated plains have consequences no less important. Whatever causes diversity of form or feature on the surface of our planet—mountains, great lakes, grassy steppes and even deserts surrounded by a coast line margin of forest—impresses some peculiar mark or character on the social state of its inhabitants."

Our lofty mountain chains and majestic water courses, have served, according to the same great philosopher, to furnish a more beautiful and rich variety of individual forms and to rescue the face of the continent from that dreary uniformity which tends so much to impoverish both the physical and intellectual powers of man.

Had the Missouri river, after taking its rise under the Rocky Mountains, and uniting with the Mississippi, held its course eastward until their waters were emptied in Long Island Sound, how different would have been the present condition of these United States; had the drainage of the country been in this direction, the Gulf of Mexico would have been as a stagnant pool, and we should have been as indifferent to New Orleans and the purchase of Louisiana, as we now are to Merida and Yucatan. Because the Mississippi river runs from the north to the south, it is one among the strongest of the bonds which hold this Union of States together.

All the great rivers of the United States, lie wholly within the temperate zone. Their basins are spread out under climates which call for the highest energies of man. Dwelling in such regions, he is constrained to be diligent; to labor; to be prudent; to gather into barns; to study the great book of nature; to observe her laws; and whilst it is summer to take thought for winter.

The perpetual summer of the tropics presents no such alternatives. On the same tree may be seen the bud, the flower, and the ripe fruit. Here, therefore, nature urges no such necessities, imposes no such tasks, and savage man is as careless of the morrow as are the lilies of the field. The people of the two climates are therefore different. Frequent intercourse between them will improve the character of each, and the most ready channels for such communication are afforded by the rivers that run north or south. With the exception of the Nile, the general direction of all the rivers of Africa, is east or west, and not one of their valleys, except the valley of the Nile, has ever been the abode of civilized man.

Civilized society can not be stationary. Vacuity is not more abhorrent to nature, than is a state of rest, either in the moral or the physical world. The materials of the latter she has divided into ponderables and imponderables, and invested them with antagonistic principles. By the action of light, heat and electricity upon ponderable matter; "the morning stars were first made to sing together;" the earth is clothed with verdure; the waves lift up their voices, and the round world is made to rejoice.

She has divided the former into animal and spiritual; and they are antagonistics,—the one elevating, the other depressing man in the scale of being. When his course ceases to be upward and onward, the spirit yields to the animal, virtue gives way to vice, the force of evil prevails, and the course of men in their social state is no longer onward and upward, but backward and downward. The sphere that lags behind in its course, is hurled from its orbit. History bears witness to the fact, that when nations cease to rise, they begin to fall. The laws of nature are her agents; they cannot act and be still; action implies motion; nature herself is all life and motion; she knows no rest, brooks no pause either for her moral or her physical agents.

Wise men say that she has attached a curse to standing still. This is German philosophy; but the idea is beautiful because it is true. We want the stimulants to energy, the incentives to enterprise, which a highway across the Isthmus is to give, to urge us on to the high destinies that await us. The energies of the country are great; they require some such highway to the Pacific to give them scope and play.

It is for time, and time alone, to decide the question as to whether the highest degree attainable by man in the social scale, will not first be reached by those people who, with the blessings of free institutions, live on rivers that run north or south through the Temperate Zone.

On account of this central sea, and its system of winds and currents; on account of the course of the rivers which run into it and of the direction of mountain ranges that traverse the continent and on account of the character and extent of the river basins and other geographical features with us, the Old World affords no parallel either in history or example by which to judge of the destinies of this country. Our mountain ranges are longer, our rivers are more majestic, our valleys are broader, our climates are more varied, our productions are more diversified here, than they are there.

The wheat harvest on the Lower Mississippi commences in June; and in the Upper Country, Christmas is at hand before the corn crop is all gathered in. Thus we have in the Valley of this majestic water-course a continued succession of harvests during more than half the year. In the other hemisphere, the seasons are reversed; and on the banks of the Southern tributaries to our central sea, reapers are in the field during the remainder of the year. A sea, which is the natural outlet to market of the fruits of regions where seasons are reversed, and the harvest is perennial, is no where else to be found.

Such advantages, both moral and physical, such means of power, wealth and greatness as have been vouchsafed to us, no nation has ever been permitted to enjoy. We have already more works of internal improvement, a greater length of rail-road and canal, built and building, and of river courses open to navigation,—more of the buds and blossoms of true greatness,—than all the world besides.

In these facts we see the effect of geographical features, as well as of free institutions.

As a general rule our rail roads and rivers are at right angles in their courses. In the New England States, where the rivers run South, the rail roads run East and West; in the Middle and Southern States, where the water courses run eastwardly, the rail-roads take a more northwardly direction. Rivers run from the mountains to the sea. Rail-roads run across the mountains. They go from valley to valley.

In calculating the sources of national wealth, prosperity and greatness which are contained, for this country, in river basins, central sea, mountain ranges, water courses and geographical features, the lights of history are of no avail. The canvass is prepared and the easel ready, but colors that are bright enough for the picture cannot be found. The exceeding great resources of our Mediterranean beggar description.

We know that other places, with the elements of commerce in far more scanty proportions, with facilities less abundant and obstacles far greater, have grown opulent and obtained renown in the world: while one calls to mind the history of such places, he feels that here is room and scope enough for individual wealth, far more dazzling, for national greatness far more imposing, and a renown far more glorious.

From all this we are led to the conclusion that the time is rapidly approaching, if it has not already arrived, when the Atlantic and Pacific *must* join hands across the Isthmus. We have shown that there is no sea in the world which is possessed of such importance as this southern sea of ours; that with its succession of harvests there is, from some one or other of its river-basins, a crop always on the way to market;—that it has for back country a continent at the north and another at the south, and a world both to the east and the west; we have shown how it is contiguous to the two first, and convenient to them all. The three great outlets of commerce, the Delta of the Mississippi, the mouths of the Hudson and the Amazon, are all within 2,000 miles, 10 days sail of Darien. It is a barrier that separates us from the markets of 600 millions of people—three fourths of the population of the earth. Break it down, therefore, and this country is placed mid-way between Europe and Asia; this sea becomes the centre of the world, and the focus of the world's commerce. This is a highway that will give vent to commerce, scope to energy and range to enterprise, which in a few years hence will make gay with steam and canvass parts of the ocean that are now unfrequented and almost unknown. Old channels of trade will be broken up and new ones opened. We desire to see our own country the standard bearer in this great work.

The rail-road across the Isthmus of Panama, will speedily lead to the construction of a ship canal between the two oceans, for a rail-road can not do the business which commerce will require of it, and by showing to the world how immense this business is, men will come from the four quarters to urge with purse and tongue the construction of a ship canal.

The two shores of the Atlantic have been brought nearer together, but by means quite different from those proposed for uniting those of the Atlantic and Pacific oceans. In both cases there is a saving of time with increased facilities of commerce. The Atlantic has been narrowed so as practically to bring America within two weeks of Europe, instead of leaving them as many months apart, as they formerly were. Whether this has been done by rail-road or canal, or by the improvements of the age and the enterprise of man, the effect so far as the saving of time and the advantages to intercourse resulting therefrom, is the same.

We therefore propose to call to mind the benefits that our people and the world have derived in consequence of bringing the two shores of the Atlantic closer together, that we may the better judge as to the effects of the proposed connexion with the Pacific.

Rightly to appreciate these benefits which it required ages to bestow, it is necessary to contrast our present condition with what it would have been under the old state of things, when "coward commerce" crept along the frightful shores and scarce had nerve or strength of wing to venture out upon the blue water—when ships were tubs at sea, that found it as much as they could do to average fifty miles a day, even under a press of canvass—and when, for the want of roads and canals, the fruits of the earth could only with great difficulty and expense be conveyed to market. Less than 200 years ago, the roads in England were so bad, the difficulties of communication so great, that entire crops were sometimes suffered to rot in one place, while in another place, distant only a few miles, the supply fell far short of the demand.* No marvel then that plagues, pestilence and famine were common in those days; and that great nations were eager to have access by sea to the mouths of large rivers;—for navigable rivers were, and still are, the most ready channels for conveying the surplus produce of their basins to market.

What would the commerce of the country now be worth? what would its maritime consequence, its wealth, its power, its greatness now be, in comparison to what they are, had the passage of the Atlantic been as tedious, the difficulties in navigating it as great, and the obstacles in the way of trade and commerce as formidable now, both by land and water, as they were a century back? The very causes which have contributed to remove them and to shorten the passage across the Atlantic, are so important, by reason of their effects, upon the condition of men and nations, that the great Humboldt, in his admirable Cosmos, considers them as constituting an epoch in the history of the *universe*.

According to him, the discoveries and improvements of navigation—the use of the compass, the variation of the needle—the log, chronometers, the means of determining the place of a ship at sea, improvements in ship-building, the introduction of steam in ocean navigation, and the like, ought all to be regarded as exerting a favorable influence in bringing within the reach of civilization and the christian religion, all parts of the earth's surface, and in shaping the fortunes of men—the destinies of nations. These causes have been ages in producing their effects, and the epoch is spread over centuries; the obstacles which ignorance and prejudice, the trammels which unwise laws and blighting monopolies place in the way of commerce, had all to be removed, before the passage of the Atlantic could be narrowed down to its present limits. But here the means are different; a continent is to be cut in twain, and the four quarters of the globe are to be brought in closer proximity *per saltum*. The task is easier. The people are ripe for it: the husbandman who supplies commerce with her staples, is enlightened and free; mechanics are all powerful with their achievements; the principles of free trade have gained strength; the blossoms of civilization sheltered by wise laws and free institutions have unfolded themselves vigorously; every thing conspires to make the work easy.

Progression and improvement are the order of the day; instead of throwing obstacles in the way of commerce the spirit of the age demands for it every facility that is calculated to promote friendly contact and free intercourse among nations.

Great revolutions in trade are to follow the separation of the two parts of the continent whether by rail-road or ship canal. Let us consider some of the most obvious results, but by no means, therefore, the most important, that are to arise from it.

At present the whale fishery is the most important branch of business which the citizens of the United States carry on over the waters of the Pacific. The floating capital annually employed in it does not fall much short of fifteen millions of dollars.

It so happens that we have cruised over the Pacific for a number of years, that we have seen much of the whalers, and enjoyed rare opportunities of obtaining statistics and other information touching this interest.

Here is some of it:

According to the Whalemen's Shipping List of January 9th 1849, published at New Bedford, there are at this time out upon the high seas, a whaling fleet of 613 sail, carrying, in round num-

* Macaulay's History of England.

bers, 200,000 tons. We subjoin a comparative statement drawn from the same authority as to the quantity of bone and oil, (sperm and right) imported for the last nine years.

	Bbls. Spm.	*Bbls. Wh.*	*Lbs. Bone.*
Imports for 1848,	107.976	208.856	2.008.000
" 1847,	120.753	313.150	3.341.680
" 1846,	95.217	207.493	2.276.939
" 1845,	157.917	272.730	3.167.142
" 1844,	139.594	262.047	2.532.445
" 1843,	166.985	206.727	2.000.000
" 1842,	165.637	161.041	1.600.000
" 1841,	159,204	297.348	2.000.000
" 1840,	157,791	207.908	2 000.000
Total for 9 years,	1.271.174	2.047.300	20.926.206
Average for 9 years,	141.242	235.456	2.324.578

The present value of Sperm Oil is $1.40 per gallon, but usually about $1, equal to $32 per bbl. The value of Whale $10.50 per bbl., and of bone 33cts per lb., equal to $4.519.744 for the average of sperm; $2.472.288 for whale; and $367.110 for bone. Total, $7.356.142 annually fished up out of the sea. This is a sum far greater than that which is annually gathered for commerce out of all of our magnificent forests.

We are not able to state the precise number of vessels employed in the Pacific, or how much of this seven millions and a third should be credited to that ocean, though in 1846 there were 292 vessels fishing on the North West Coast alone, and they took while there 253.500 bbls. of oil. We may safely assume that two thirds of the whole number of vessels engaged are employed in the Pacific; and that three fourths of the oil taken, comes thence, for the vessels in the Pacific are larger than those in the Atlantic fishery. This would give for the Pacific, in round numbers, 400 vessels, yielding annually five millions and a half of money!

The cost of outfit and vessels for this fleet is about $28,000 per vessel; the average length of a voyage (mean of Right and Sperm Whalers) is three years; of which one third is lost in going to and returning from the whaling grounds, laying in port to recooper, refresh, &c., leaving but two years of actual fishing, or eight months in twelve.

The rate of insurance upon vessels and outfits is 3 per cent per annum; and the legal interest upon the money invested in ships and outfits, which make no return until the end of the voyage, is 6 per cent.

The loss of oil, by leakage is five per cent during the voyage.

Now Panama is on the confines of one of the most valuable whaling grounds in the Pacific. In that vicinity and near the Gallapagos islands, the sperm whale resorts in large numbers, and if a rail-road or ship canal were constructed across that Isthmus, it would vastly benefit this interest in which there is a floating capital greater than that employed in all our commerce with China and the ports and countries bordering on the Pacific and Indian Oceans put together.

If this oil, then, instead of remaining on board the vessel from one to two years (for that which is taken the first year, remains on board two years, and that which is taken the second, one year) as dead capital, could be sent home across the Isthmus at reasonable tolls, the gain would be great, for there would be a saving of both time and substance: the leakage would amount to but 1 per cent., instead of 5;—half the time at least that is now employed in consequence of having to desert the whales to cooper the oil, refit and refresh, would be saved;—the whaling year might be made to consist of 10 instead of 8 months, with of course a proportional increase of profits on the original outlay for the additional two months of fishing;—the vessels employed in the business, instead of being large ships capable of holding 2,800 bbls.—the proceeds of three years—would be small ships capable of holding only one year's gathering;—and the cost of smaller vessels, say of one third the size of those now employed, instead of running up to $28,000 each for vessel and outfit, would by a liberal estimate be brought down within half that sum.

Estimating the charge per ton for storage, freight and handling at the enormous rate of $20, or $2 per bbl. across the Isthmus (this is 20 cents per ton per mile, over rail-road) and the freight thence to the United States, to be $1 per bbl., or $10 per ton, the following comparative statement is obtained in illustration of the importance to this interest alone of such a communication.

Cost, outfits and expenses of vessels employed on a three years whaling voyage in the Pacific Ocean.

Cost of 400 vessels of 2800 bbls. at $28,000		$11.200.000
6 per cent interest on same, for one year,		672.000
3 " " insurance, " "		336.000
10 " " wear and tear on costs and outfits,		1.120.000
Two years interest on $1.833.333 being one-third of the value of the oil taken during 3 years, of which one-third is kept on board ship as dead capital for two years,		220.000
One year's interest on the oil taken 2nd year,		110.000
Leakage being 4 per cent on $5.500.000		220,000
Annual average disbursement per ship, $2.000		800,000
Original outlay and expenses for one year's whaling in the Pacific,		$14.678.000
Credits and Receipts.		
Value of vessels and outfits after one year's wear and tear,	$10.080.000	
Value of cargoes returned,	5 500.000	15.580.000
Gross profits,		$902.000

Per contra, supposing a communication across the Isthmus and the whaling business to be revolutionized, by the substitution of vessels of one-third the present size and half the cost, and by sending the oil home once a year.

Cost of 400 vessels of 933 tons at $14.000,		$5.600.000
6 per cent interest on same for one year,		336.000
3 " " insurance,		168.000
10 " " wear and tear,		560.000
Annual disbursements per ship, $1.000,		400.000
Loss by leakage, 1 per cent on $6.875.000,		68.750
Freight, &c., over rail-road of 48.540 tons, at $20 per ton,		970.800
" thence home, at $10 per ton,		485.400
Original outlay and expenses of whaling one year, and sending proceeds home by Panama rail-road,		$8.588.950
Credits and Receipts.		
Value of vessels and outfits, deducting one year's wear and tear,	$5 040.000	
Value of bone and oil collected by fishing 10, instead of 8 months,	6.875.000	$11.915.000
Gross profits via rail-road,		$3.326.050
do. do. around Cape Horn,		902.000
Margin in favor of Panama rail-road, on account of the whaling business,		$2.424.050

Two millions and a half is a large margin; but there is room here for a large margin. Whether the national wealth would be increased to the full extent of it or not, it is evident from the exhibit, that the communication in reference to this one interest alone, is of sufficient national importance and magnitude to command the most attentive consideration. The prospect of gain, is, to say the least, inviting.

It has been the policy and practice of the United States, acknowledged at an early day and carried out for many years to encourage nurseries for seamen; with this view bounties are given to the cod and mackerel fishermen; and the sum paid them from first to last as "fishing bounties," would be quite sufficient to lay double tracks of rail-road across the Isthmus. The whale fishery is by far a more valuable nursery than those of the grand banks of Newfoundland for seamen, and it has never received any bounties or direct encouragement whatever. It has been left very much to itself. Some of our readers will recollect the fact and we mention it in this communication with some feelings of pride, that "Old Ironsides" and the "United States," in the last war, were both manned and fought principally by Marblehead men; New England whalemen they were.

Neither Tehuantepec nor a rail-road from the valley of the Mississippi to California, would afford the whalemen the advantages gained by this route; and this is a hardy, adventurous and interesting class of our fellow citizens; are they not worthy of public consideration?

Other great interests of state no less than this, require such legislation as the constitution allows and as is necessary to secure the early completion of the road.

There be those who clamor for protection—and those again who preach the doctrine of free trade. Both classes may meet on this highway to the Pacific, and each may there occupy its own ground. For while it would protect home industry, it would also advance free trade. Nature may as effectually as legislation protect certain branches of industry, for when she places obstacles across the roads to market, she lays a tariff on the merchandize passing over them, by the amount which it has to pay to overcome these obstacles. Taking this view, all roads, canals and internal improvements, may be regarded as modifications which free trade and its advocates have made upon the tariffs that nature imposes upon traffic.

Southern people have watched with interest the attempts made in India by England to rival them in the cultivation of cotton, and Southern people have breathed more freely as she has met with failure after failure. They cry free trade—and yet by failing to give their countenance to well laid plans for uniting the two oceans, they are not only assisting to perpetuate the tariff which nature, by the obstacles she has placed in the way, has imposed upon commerce with the Pacific, but they are fostering a rival interest in opposition to their own great staple.

Mexico is protecting the manufacture of coarse cottons, known as *tucuyos*—and is seeking by this means to make Guadalajara her Lowell. Formerly the raw material from this country was sent there around Cape Horn. Cotton is indigenous to Peru. There it bowls and opens all the year, and our merchants have discovered that by encouraging the Peruvians in the cultivation of this staple, it is to their interest to send other cargoes in their ships around Cape Horn, exchange them for the cotton of Payta and Lambayeque, and take that to Guadalajara. During the last year ten thousand bales were taken from these two ports by American ships alone to Mexico.

This is quite as great as the exports of cotton from the United States were fifty years ago, and the demand is on the increase. It is dangerous to foster in a foreign country any rivalry, however humble in the beginning, to great national staples.

The freight on cotton around Cape Horn to Mexico is $25 the ton; with this Panama rail-road, it would be from New Orleans less than one third that sum. We call this freight around Cape Horn nature's tariff, for it is as effective in obstructing trade, as though it was written on the statute book.

In consequence of it, the cotton of Peru meets that of Carolina in the West Mexican markets with the advantage of more than a half a cent the pound—which is ample protection. The southern planter therefore who opposes the opening of a communication across the Isthmus is unwittingly fostering and giving protection to a foreign and a rival interest.

Costa Rica, on the Pacific, produces sugar and the finest of coffee. They are exported to Chili and Peru. The voyage around Cape Horn and other conditions of commerce exclude them from our markets. A rail-road across the Isthmus would bring New Orleans within two weeks of these coffee and sugar plantations. Thus it would carry the principles of free trade there, encouraging competition with the coffee of Brazil and the sugar of the West Indies. Such are the results which the protectionist of home industry seeks to accomplish, and such are the results which the free trader advocates, and therefore, as before remarked, each in advocating a great highway over the Isthmus, stands on his own grounds.

We have investigated the subject of freights around Cape Horn, and have collected statistics that we might form an opinion as to the probable cost of the transportation of merchandise via Panama rail-way and via the "The Horn" to the ports of the Pacific, say to Lima in Peru. We have supposed the freight over the Panama road will be at least double the usual rates in this country, and have taken it as at 10 cents per ton per mile. The conclusion is, that a cargo of merchandise can be sent from New York via Panama to Lima in one fourth the time and for less than half the money that it now takes to send it around Cape Horn.

Here are the facts, the statistics and estimates from which this conclusion is drawn. The sailing distance from New York to Lima, via Cape Horn, is 13,000 sea miles—the time four months, the freight $15, or one mill and fifteen hundredths of a mill per ton per mile.

The distance, via Panama, exclusive of the 45 miles of rail-road, is 3,700* and the time 30 days.

The average value of a ton of merchandize is supposed to be $250, on which three month's interest is charged for the excess of the Cape Horn passage.

Comparative statement as to the cost of freight per ton from New York to Lima.

	Via Cape Horn.	*Panama*
13,000 miles at 1.15 mill,	$15.00—3,700 miles	$4.25
Interest on $250 for 3 mo. 6 pr. ct.	3,75	
45 m. R. R. 10 cts.		4.50
	$18.75	$8.75
	8.75	
Difference in favor of R. R.	$10.00	

* 3,700, which is less than the distance by canvass from Charleston to Liverpool.

There are eight millions of people inhabiting the Pacific coast—all of them want things that we have to sell. They are four or five months removed from us; this road would bring them within 30 days.

For those of them who travel, the route to California and to China, would be across the Isthmus this way, to New Orleans, thence up the Mississippi to the California rail-road. This when opened, will be their shortest and best travelling route to California, China and India. And unless both the California and Panama routes be established, the line of travel between the Pacific shores of North and South America, never can be brought through the United States. These two roads are links in the same line and when once completed, the world cannot prevent all the South American travel from coming this way.

We see Cities and States pushing forward rival schemes of internal improvements, and setting up opposition after opposition to bring travel their way. They consider themselves rewarded when they secure the business between places containing a few thousand people engaged in traffic. This Panama improvement would bring us the travel from countries inhabited by millions and send it through the length and breadth of the land, dispensing national, sectional and particular benefits all the way. The advantages that business and travel scatter on the way side of their great thoroughfares, are and ever have been objects of desire with the greatest nations as well as with the smallest corporations. Here they are offered to us on a scale grand in proportion to the water courses, mountain ranges, lakes and river basins of the new world, and sublime in proportion to its free institutions. The rail-road will build a ship canal across the Isthmus of Panama, upon the same priuciple that one internal improvement in our own country begets another. How many rail-roads has the Erie Canal caused to be built, that but for that improvement would not now be in existence?

In the same way the Panama rail-road will stimulate commerce with the Pacific, and by showing the amount of business to be done, men of business will see and be satisfied that the road is insufficient and a ship canal is necessary.

In our poor judgment it is wise, prudent, constitutional and right that the federal government should encourage this undertaking, so far at least as encouragement may be necessary to secure its early completion.

Magnets and electrical batteries have their positive and negative poles, some questions have negative and positive sides; and this is one of them. Suppose this rail-road to Panama were already built, it is immaterial by what agency, and that this country were in the actual enjoyment of all

the great advantages that are to flow from it. Suppose now that some power were to attempt to snatch these advantages out of our hands and to deprive us of them; the nation would rise up in arms; the vile coffers for keeping filthy lucre in, and the precious caskets in which the jewels of the land are concealed, would be broken open and their contents scattered, as though both life and money had lost their value.

There is nothing that the country would not do to preserve these advantages after once having tasted them, and, according to some, there is nothing she ought to do to get them before she has tried them. Such are the negative and positive sides of this question. We give nothing to get, that's unconstitutional; but having got, we give every thing to keep—and that is constitutional.

We find the Constitution in the general welare of the people, in the common defence of the country and in the elements of domestic tranquillity.

Books and wise men teach and tell us that "law is the perfection of reason." We know that the Constitution is founded on the everlasting principles of right, tempered by the spirit of compromise.

The humblest freeholder in the land has the right of way from his homestead to the common highway. The law secures to him a way through the estates, if need be, of his neighbor to market. It is a fundamental principle of civilized society, and one upon which the peace and harmony of all communities and neighborhoods essentially depend, that no man has a right to hem his neighbor in and shut him out from free communication with the common highways and the markets of the world.

Have not the people of the United States in their national character, a like privilege? Else why did their government treat with a neighboring nation for the right of way across the Isthmus? Their possessions are far remote from one point to another; the way to them is circuitous and remote, passing through latitudes where the seasons are reversed, the skies are changed, and where both day and night are lengthened out into the dreary alternation of the polar seasons. Shall they continue to pass through the cheerless latitudes, to brave the dangers of the stormy cape, and to sail twenty thousand miles and more to reach a part of their own country, when by the construction of a road a few miles in length, the journey may be confined to our own hemisphere, the distance may be reduced from 20,000 to 5,000 miles and the time may be brought down from months to weeks.

With what show of reason, with what consistency of argument, can it be maintained, that although there be in this government the power to treat for a road to market through foreign territory, the power to guarantee the neutrality of the Isthmus of Panama and the free right of way across it to all nations, yet there is no power under the Constitution to encourage the construction of a commercial highway there—no principle of action or rule of conduct known to the federal government by which it can render that guaranteed right of way, a right practicable to its own citizens and available for its own great and manifold purposes? The principle of "the greatest good to the greatest number" is one of the pillars of the Constitution.

"Of all inventions," says Macaulay, "the alphabet and the printing press alone excepted, those inventions which abridge distance have done most for the civilization of our species." Every improvement, by which time or distance from place to place is lessened, benefits mankind morally and intellectually, as well as physically; not only facilitates the interchange of the various productions of nature and art, but tends to remove national and provincial antipathies, and to bind together all the branches of the great human family. Dragon's teeth would not be sown in this our day, that nations might reap therefrom harvests of steel-clad warriors; those seeds are now most esteemed that bring forth the engines of peace and civilization. No nation has scattered them with a more liberal hand than this. The people of the United States are the only people who have expended more of their treasure for works of improvement than on the engines of blood and destruction. The consequences that are to result from the breaking down of the barrier between the two oceans, are vast and important. It is an achievement the effects of which upon the industry of this country our children will class with the effects of the steam-engine and the cotton-gin.

It is an achievement easy of accomplishment; and it is an achievement from which vast consequences to civilization are to follow; and it is an achievement so fraught with increased prosperity and greatness for our country, that we earnestly desire to see it undertaken speedily, that we may have the privilege of witnessing in our day some of its glorious results.

Other times will call for other and additional channels of communication. No one can doubt it, for there is wealth for the world on the margin of our sea, and treasures, inexhaustible treasures scattered over its magnificent system of river basins, that will induce other nations to break through Panama, Nicaragua and Tehuantepec, were each "twenty times" an Isthmus. At present, we want to get to other people across it.

The time will come, when they will want to come to us. But that time is not yet.

There is a classic and a sacred duty which makes it incumbent upon this nation above all others to cause a commercial highway to be opened across the continent between the Atlantic and Pacific Oceans. An unknown voice told Columbus in a dream, on that Isthmus, that God had made his name great in the earth, and had sent him to "unbar the gates of ocean."* He was not permitted to realize the idea closest to his heart and to show that the nearest way to India lies through the Carribean Sea; nevertheless he executed his high commission and "unbarred the gates of ocean," but the gate across the land has never been unlatched; the office and the honor of throwing it wide open that the commerce of the world may pass through—we claim for the people of this nation. The task commends itself to their feelings, to their spirit and their enterprise, and in this our day-dream, a voice whispers us—it *must* be done.

* The voice said—"Maravillosamente Dios hizo sonar tu nombre en la tierra; de los atamientos de la mar Oceana, que estaban cerradas con cadenas tan fuertes le dió las llaves.

THE PEARL.

BY GRETTA.

PART FIRST.

Come, maiden with the glowing cheek,
  Bright maiden with the sunny glance,
Let us yon leafy bower seek
  And leave awhile the festive dance.
Let the music rise and fall and float,
Eddying in many a rippling note,
And the dancers whirl in the dizzy round
Led by the fairy troops of sound;
Let the laugh ring out right merrily
And the bright lips quiver with repartee,—
But we will leave the noise and glare
To seek the purer open air;
For the still cold moon, the calm pale stars,
High throned above all mortal jars,
The solemn night, and the dewy air
Wet with the tears of spirits at prayer—
Earnestly praying for this dull earth,
Where their mortal bodies had their birth—
Have strange, mysterious influences
To open the spirit and shut the senses.

And I have a tale of the olden time—
A simple tale, and a simple rhyme—
  To breathe in thy listening ear,
Which I pray thee heed, for a warning rings
In unison with my lyre's weak strings,
  It may touch thy heart to hear!

My partial eye, oh maiden bright,
Has rested on thee all this night;
It marked thy cold, averted look,
It marked the mien that ill could brook
  That one should seek thy side,
And, though uncall'd, unwelcome there,
Still whisper the forbidden prayer
  That thou wouldst be his bride.
It saw thee turn in scorn away,
To waste thy smiles on one more gay—
And it saw the poisoned, rankling dart
Pass through and through that lone one's heart,
As you gaily laugh'd—"No art is thine
To win this young warm love of mine."

Thou call'st this lover cold and stern
And solemn as a funeral urn,
But ah! thine eye has not discerned
The truth that in his heart has burned,
Like the bright lamp whose constant ray
  Glows ever in the inmost shrine,
Seen but by those, who day by day
  Pray where its faint beams shine.
Then, lady, listen, while I sing
  About a maiden fair,
Who was, like thee, in life's young spring,
  Like thee as strange to care.
Come rest awhile, and lend thy smile
  A moment to my strain,
Ere in yon room, like soft perfume,
  It falls on all again.

In the olden time, the olden time,
When earth was in her summer's prime;
And the stars that lend their silvery gleam
Were nearer men than now they seem;
When all was bright as childhood's day;
And life was one immortal May;
And the young roses, withered now,
Were fresh as morning's cloudless brow;
And old romance that 's only known
In these dull days by carvéd stone,
Or canvass, or remembered song,
Was then as vigorous as young;
When fairies lived in every dell;
And spirits guarded every well;
And angels blessed the solitude,
And drowned the shadows of the wood
In floods of radiance rained from heaven;
And blessings were to mortals given
Now all unknown—sweet interviews
With the celestial hosts that use
To bathe in that melodious river
O'er heavenly plains that murmurs ever,
And foretastes of that sweet Elysian
Caught now and then in blissful vision,
And converse with the mighty powers
Who rule this universe of ours—
Then in morning's balmy hour
  A virgin roved adown the vale
Near where a castle's rock-built tower
  Gave out its banner to the gale.
Oh she was fair, this youthful maid,
  Her dark eyes beamed with hope and glee,
Her step was light along the glade,
  Her song as woodland warbler's free;
And when Aurora's rosy ray
Poured o'er the scene the flush of day,
She seemed like Hebe, young and bright,
  When first she to the gods was given,
Bathed in the glorious golden light,